

# NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

## FACT SHEET

(pursuant to NAC 445A.236)

**Applicant:** Smith Valley Cattle Feeders  
P. O. Box 18  
Smith, Nevada 89430

**Permit:** NV0023540

**Location:** Smith Valley Cattle Feeders  
500 Hudson Way  
Smith, Lyon County, Nevada 89430  
Latitude: 38.83564° N, Longitude: 119.29135° W  
Township 11N, Range 24E, Sections NE ¼ of 9, NW ¼ of 10 MDB&M

**General:** The Applicant has applied for a National Pollutant Discharge Elimination System (NPDES) permit, NV0023540, to discharge manure and process wastewater in excess of the 25-year, 24-hour storm event, 2.0 inches, from Smith Valley Cattle Feeders in Smith Valley. The facility is located on the south side of Hudson Way, along the West Walker River, one mile east of Highway 338. At maximum capacity, the facility has been designed to house 25,000 head of dairy heifers from 6 to 24 months of age. Heifer numbers fluctuate throughout the year as cows are bought and sold. The facility is defined as a concentrated animal feeding operation (CAFO) because at least 1,000 cattle are confined for 30 days or more in a 12-month period in an area devoid of vegetation during the normal growing season.

The facility was constructed in approximately 1971 and designed to hold 11,000 head of beef cattle. The feedlot was modified to a heifer operation and the soil-lined process wastewater ponds were constructed in early 2006. Facility construction is industry-typical pipe and cable fence, concrete feed aprons and feed bunks, feed alleys and cattle movement alleys, feed storage areas and associated storage structures and maintenance facilities, waste management and control structures.

Based on the flood insurance rate maps, the facility is located within a mapped 100-year floodplain. Berms, ranging from 2 to 5 feet high, have been constructed to divert feedlot runoff, process wastewater, to the retention ponds and to divert the 100-year flood around the facility.

The four retention ponds were constructed with material found on-site. Laboratory testing during the design phase indicated that the on-site soils compacted to 89.8% relative compaction had a coefficient of permeability of  $4.52 \times 10^{-8}$  centimeters per second (cm/sec). Due to soft and yielding subgrade soils identified during construction, the West Pond liner could only be compacted to 84% relative compaction, therefore, this liner was constructed to a minimum 18-inch thickness versus the design and Division standard of 12 inches of material compacted to  $1.0 \times 10^{-7}$  cm/sec. Laboratory testing determined that this soil at 84% relative compaction has a coefficient of permeability of  $1.64 \times 10^{-7}$  cm/sec.

The West Pond has been constructed to contain 7.79 acre-feet (A-ft) of process wastewater with a drainage area of 70.4 acres. The Middle Pond has been constructed to contain 3.43 A-ft of process wastewater with a drainage area of 26.6 acres. The East Pond #1 and East Pond #2 have been constructed to contain 5.80 A-ft and 2.01 A-ft, respectively, of process wastewater with a combined drainage area of 74.9 acres. Approximately 171 acres of the 273 acre property drain to the retention ponds. The pond storage capacity exceeds the volume required for containment of the 25-year, 24-hour storm event, 16.6 A-ft, by 2.4 A-ft..

A nutrient management plan is not required for this facility because all manure is transferred to other parties and process wastewater is either evaporated or transferred to other parties. The design plans, specifications,

and as-built drawings of the facility are available for review in the Division's Carson City office. Animal mortalities are currently composted on-site. The Applicant is evaluating this procedure and will submit an Animal Mortality Management Plan within sixty days of the permit effective date. Continued composting will require a composting pad and a permit from the Bureau of Waste Management.

**Flow:** The proposed permit will authorize the discharge of manure and process wastewater in response to storms that exceed the 25-year, 24-hour event. The discharge flow rate will not be limited by the permit and will be dependent upon the magnitude of the exceedance of the design storm event.

**Site Groundwater:** Groundwater is shallow at the facility with the water table listed at 1 foot, 12 feet, and 42 feet in the three eight-inch diameter agricultural wells listed in the permit application. These wells were completed to 90 feet, 183 feet, and 177 feet, respectively.

No groundwater quality information was provided in the permit application. The well within one of the feedlot pens will be abandoned during the term of this permit.

**Receiving Water Characteristics:** Any discharge from the retention ponds would flow to the West Walker River. The River is approximately 125 feet from facility at the closest point with much of the feedlot in the 100-year floodplain.

The West Fork of the Walker River at Hudson Gage, Storet ID NV09-302-WF-004, was monitored by the Bureau of Water Quality Planning from the 2<sup>nd</sup> quarter 1996 through the 4<sup>th</sup> quarter 2004. During that 8.5 year period, the average water quality was:

| Parameter                                | Average (mg/L) | Minimum (mg/L) | Maximum (mg/L) |
|--|----------------|----------------|----------------|
| Total Nitrogen                           | 0.63           | 0.27           | 1.53           |
| Total Phosphorus                         | 0.097          | 0.02           | 0.51           |
| Total Dissolved Solids                   | 201            | 73             | 382            |
| Chloride                                 | 15             | 3              | 36             |
| Total Suspended Solids                   | 30             | 1              | 226            |
| E. coli (MPN/100 mL)                     | 65             | 10             | 429            |
| Fecal Coliform <sup>1</sup> (MPN/100 mL) | 66             | 10             | 600            |
| Dissolved Oxygen                         | 9.7            | 5.1            | 14.2           |
| Total Iron <sup>2</sup>                  | 0.66           | 0.10           | 1.64           |

Notes:

<sup>1</sup>: Fecal coliform was monitored from the 3<sup>rd</sup> quarter 1999 through the 4<sup>th</sup> quarter 2004.

<sup>2</sup>: Metals were analyzed twice per year.

mg/L: Milligrams per liter. MPN/100 mL: Most probable number per 100 milliliters.

The November 2005 303(d) Impaired Waters List includes total iron and total phosphorus as the pollutants or stressors of concern for the West Walker River from Wellington to the confluence with the East Walker River, NAC 445A.163.

**Proposed Effluent Limitations:** Samples taken in compliance with the monitoring requirements specified below shall be taken from:

- Manure and process wastewater;
- Compost;
- Storm-related discharge to waters of the State; and
- Feedlot.

The discharge shall be limited and monitored by the Permittee as specified in Table I.1.

**TABLE I.1**

| PARAMETERS   | EFFLUENT DISCHARGE LIMITATIONS | MONITORING REQUIREMENTS |                             |                       |
|--|--------------------------------|-------------------------|-----------------------------|-----------------------|
|  |                                | Sample Locations        | Measurement Frequency       | Sample Type           |
| pH (standard units)  | Monitor and Report             | a., b.                  | Annually <sup>1</sup>       | Discrete              |
|  |                                | c.                      | Each discharge <sup>2</sup> |                       |
| Chlorides (mg/L, mg/kg) <sup>3</sup>                               | Monitor and Report             | a., b.                  | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Total Dissolved Solids (mg/L, mg/kg) <sup>3</sup>                  | Monitor and Report             | a. <sup>5</sup>         | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Total Suspended Solids (mg/L)                                      | Monitor and Report             | a. <sup>5</sup>         | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| 5-day Biological Oxygen Demand (mg/L)                              | Monitor and Report             | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Total Nitrogen – N (mg/L, mg/Kg)                                   | Monitor and Report             | a., b.                  | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Total Kjeldahl Nitrogen –N (mg/L, mg/kg) <sup>3</sup>              | Monitor and Report             | a., b.                  | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Nitrate –N (mg/L, mg/kg) <sup>3</sup>                              | Monitor and Report             | a., b.                  | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Ammonia -N (mg/L, mg/kg) <sup>3</sup>                              | Monitor and Report             | a., b.                  | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Total Phosphorus -P (mg/L, mg/kg) <sup>3</sup>                     | Monitor and Report             | a., b.                  | Biannually <sup>4</sup>     | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Fecal Coliform (CFU or MPN/100 mL)                                 | Monitor and Report             | a., b.                  | Annually <sup>1</sup>       | Composite             |
|  |                                | c.                      | Each discharge <sup>2</sup> | Discrete              |
| Material Transferred to Other Parties (tons, gallons) <sup>6</sup> | Monitor and Report             | a., b.                  | Monthly                     | Estimate <sup>7</sup> |
| Material Stored On-site (tons, gallons) <sup>6</sup>               | Monitor and Report             | a., b., d.              | Monthly                     | Estimate <sup>8</sup> |
| Volume of Discharge (gallons)                                      | Monitor and Report             | c.                      | Each discharge <sup>2</sup> | Estimate              |
| Number and Type of Animals   | Monitor and Report             | d.                      | Monthly                     | Count                 |

Notes:

- 1: Annual characterizations shall be conducted in the fourth quarter and reported in the fourth quarter Discharge Monitoring Report (DMR). If after two fourth quarters of the permit term there has been no process wastewater in any of the four ponds in the fourth quarter, the Permittee shall characterize the process wastewater at the next precipitation event that results in a sufficient volume of process wastewater in any pond to sample. After the start of the revised sampling, the Permittee shall continue this procedure following each fourth quarter that a process wastewater sample cannot be obtained. This data shall be reported in the DMR for the quarter that the sample was collected.
- 2: The Permittee shall collect the sample within 30 minutes of the first knowledge of the discharge. If sampling in that period is inappropriate due to dangerous weather conditions, collect the sample as soon as possible after suitable conditions occur, and document the reason for delay. Also, report date and time of each discharge.
- 3: mg/L for liquids, mg/kg for solids.
- 4: Biannual characterizations shall be conducted in the first and third quarters and reported in the appropriate DMR. If after two years of the permit term there has been no process wastewater in any of the four ponds in the first or third quarters, the Permittee shall characterize the process wastewater at the next precipitation event that results in a sufficient volume of process wastewater in any pond to sample. After the start of the revised sampling, the Permittee shall continue this procedure following each first or third quarter that a process wastewater sample cannot be obtained. This data shall be reported in the DMR for the quarter that the sample was collected.
- 5: Process wastewater only.
- 6: Tons for solid manure and compost, gallons for process wastewater.

|        |  |      |                       |
|--------|--|------|-----------------------|
| 7:     | Based on truck loads.  |      |                       |
| 8:     | Estimate amount manure and compost, process wastewater to be determined from pond depth. |      |                       |
| mg/L:  | Milligram per liter.   | CFU: | Colony Forming Unit.  |
| gpd:   | Gallons per day.   | MPN: | Most Probable Number. |
| -N:    | As nitrogen.   | mL:  | Milliliter.           |
| -P:    | As phosphorus.   | ft:  | Feet.                 |
| mg/kg: | Milligrams per kilogram.   |      |                       |

**Rationale for Permit Requirements:** Monitoring requirements for the parameters specified in Table I.1: Discharge Limitations are being proposed to ensure that the Applicant has appropriate manure data to comply with the Manure Transfer Requirements, Part I.A.9., and to determine any potential impact to waters of the State that may occur in response to a storm related discharge.

Manure nutrient data, nitrogen and phosphorus, is required for the proper beneficial use of the manure; used primarily to determine manure application rates. The concentration of chlorides in the manure may determine, or at least be a factor in determining, the beneficial uses of this material.

Monitoring of the nitrogen species, total phosphorus, pH, chlorides, total dissolved solids, total suspended solids, and fecal coliform of the discharge is required because these are the parameters most likely to be present in the discharge in response to a storm greater than the 25-year, 24-hour event.

Nutrient Management Plan (NMP): Submittal of an NMP is not required by the draft permit because all components of an NMP, for a facility that transfers 100% of their manure to other parties, will be permit requirements. Containment of manure and feed storage area runoff are part of the production area, Part I.A.4.; providing the nutrient analysis data to anyone receiving manure, Part I.A.9.; etc. are included in the proposed permit.

The Division does not have authority to regulate manure transferred to other parties, unless the manure is used in an activity identified by the Administrator as a significant contributor of pollution or the manure is composted. If the manure or dead animals are composted, a permit from the Bureau of Waste Management will be required for this activity.

**Schedule of Compliance:** The Permittee shall submit the following items to the Division for review and approval:

- Within thirty (30) days of the permit effective date, the Permittee shall submit to the Division the results of a groundwater quality analysis from one of three wells listed in the permit application. The groundwater shall be analyzed for pH, chlorides, total nitrogen as N, nitrate as N, ammonia, total phosphorus as P, and fecal coliform.

- Within sixty (60) days of the permit effective date, the Permittee shall submit to the Division for review and approval a revised Animal Mortality Management Plan.

- Within sixty (60) days of the permit effective date, the Permittee shall submit to the Division a revised Operation and Maintenance Manual prepared in accordance with the Division's WTS-2 guidance: *Minimum Information Required for an Operations and Maintenance Manual*. The Manual shall address, but is not limited to control of vegetation in soil-lined ponds, pen cleaning/maintenance, manure management, and monitoring of precipitation.

- Within thirty (30) days of Division approval of the Animal Mortality Management Plan, the Permittee shall implement the AMMP.

- Within ninety (90) days of the permit effective date, the Permittee shall demonstrate compliance with NRCS Conservation Practice Standard Code 317, Composting Facility, or propose a schedule

for the design and construction of an animal mortality composting facility, if the AMMP includes composting of mortalities.

If a new composting facility must be constructed, the Division shall establish additional schedule of compliance deadlines for the design and construction of this facility as a minor modification.

-At least ninety (90) days prior to the closure of a pond, surface impoundment, or other manure or process wastewater storage or treatment facility, the Permittee shall submit to the Division for review and approval a component closure plan or facility closure plan, if operations will cease.

-At least ninety (90) days prior to the temporary closure of a pond, surface impoundment, or other manure or process wastewater storage or treatment facility, the Permittee shall submit to the Division for review and approval a component temporary closure plan or facility temporary closure plan, if operations will temporarily cease.

**Proposed Determination:** The Division has made the tentative determination to issue the proposed permit for a period of five (5) years.

**Procedures for Public Comment:** The Notice of the Division's intent to issue a permit authorizing the facility to discharge manure and process wastewater in response to storms that exceed the 25-year, 24-hour event to surface waters of the State, subject to the conditions contained within the permit is being sent to the **Mason Valley News** and the **Reno Gazette-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the notice of proposed action in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is 5:00 PM November 26, 2007.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Bruce Holmgren  
Date: October 2007